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# BOTANICAL GAZETTE

*MAY 1910*

CHARLES REID BARNES

(WITH PORTRAIT)

CHARLES REID BARNES was born at Madison, Indiana, September 7, 1858, and died at Chicago, from an accidental fall, February 24, 1910. He graduated at Hanover College in 1877, and afterward studied at Harvard University, where he secured the friendship of Professor ASA GRAY. After teaching in the public schools for a few years, he became professor of botany at Purdue University in 1882. In 1887 he was called to the University of Wisconsin, and for eleven years developed and maintained a vigorous department of botany in that growing institution. In 1898 he became professor of plant physiology at the University of Chicago, and completed twenty-eight years as a university professor. At Hanover College he met Professor COULTER as his instructor in botany, and from that time they became intimately associated, first as joint editors of the BOTANICAL GAZETTE, and later as colleagues in the same university.

He was always active in scientific societies, and the esteem in which he was held by his colleagues is indicated by the positions he held. He became a member of the American Association for the Advancement of Science in 1884 and a fellow in 1885; was secretary of the botanical section in 1894, secretary of the council in 1895, general secretary in 1896, and vice-president (chairman) of the botanical section in 1898, giving his retiring address at Columbus in 1899 on "The progress and problems of plant physiology." He was secretary of the Botanical Society of America from its organization in 1894 to 1898, and became its president in 1903, giving his retiring address at Philadelphia in 1904 on "The theory of respiration." In 1905 he was a delegate from the botanical section of the

American Association to the International Botanical Congress at Vienna.

As a teacher Professor BARNES had few equals. There was a clearness and precision in his statements that left nothing to be desired. This power of presentation was reinforced by a personality so winning, on account of its brightness and friendliness, that students were attracted not only to the subject, but also to the man. This is teaching at its highest level, and his many students throughout the country are feeling the loss of a friend of powerful personality even more than of a teacher of unusual ability. His power of training men was conspicuous, and his critical sense was an unusually valuable asset in a department active in research. An investigation or a thesis which had run the gauntlet of his frank and keen criticism was equipped to face the public.

In 1883 Professor BARNES became coeditor of the *BOTANICAL GAZETTE*, and for twenty-seven years filled this position with remarkable efficiency. He had the editorial genius, which entered into every detail, from general policy to printing. He was complete master of all the details that belong to such work, and was continuously solicitous as to form, accuracy, and high standards of every kind. He was especially expert in the work of illustration, and with remarkable patience corrected the blunders of inexperienced or careless contributors. The laborious work of editing manuscripts and illustrations obtains little or no public recognition, but in his work as a reviewer Professor BARNES achieved high reputation. He grasped the significant things and presented them with a clearness and a force that is unusual. Moreover, he felt keenly his responsibility to the readers of the journal and to his science, and let no doubtful results or inferior work slip by without incisive comment.

As a writer Professor BARNES was not voluminous, but very effective. He never wrote for the sake of writing, but because he had something to say. He had a style and a grasp that are sadly lacking in most scientific writing today. He felt that clear statement comes naturally from clear understanding, and that muddy statement throws suspicion on the understanding. When the organizing instinct of the teacher deals with clear and sharp-cut statements, the result is a presentation that is a real contribution not only to knowl-

edge, but also to good writing. Aside from his work as editor and reviewer, his botanical writings fall into four categories.

1. TEXTBOOKS.—Professor BARNES played an important part in the development of laboratory work in this country. The spirit of the *Lehrbuch* of SACHS had been introduced into this country by Professor BESSEY, but many teachers at that time needed specific directions for studying the material called for. To meet this need, the then editors of the BOTANICAL GAZETTE, Professors ARTHUR, BARNES, and COULTER, prepared the *Handbook of plant dissection*, which was published in 1886. The accident of the names of the joint authors and the sequence of their parts in the book led to its informal designation as “the A B C of botany.” Through the whole period of laboratory organization and development this book played its part as a guide, and through it the teaching power and technical facility of Professor BARNES reached the teachers.

In 1898 he published his *Plant life*, a textbook for secondary schools. This was about the first text in this country that recognized physiology and ecology as subjects for study in secondary schools, and was considerably in advance of the preparation of the teachers. A briefer edition appeared in 1900, entitled *Outlines of plant life*.

His ripened experience as a teacher and an investigator had just expressed itself in a textbook on plant physiology for college use. He was permitted to read the final proofs, so that the work will appear just as he had it in mind. This will stand as a permanent record of his point of view, of his characteristic and telling way of putting things, of his critical analysis of difficult problems and doubtful situations.

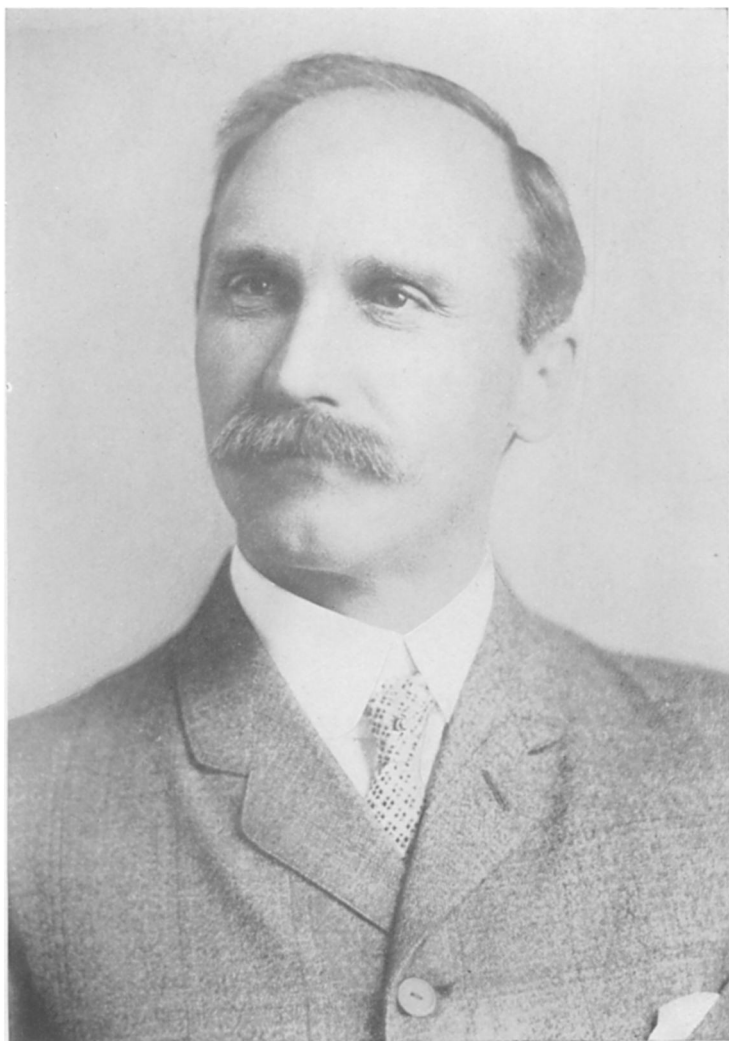
2. TAXONOMY.—Like almost every American botanist whose training began thirty years ago, his first contact with the subject was through the GRAY texts, and his first interest was in local floras. Various small papers were published, but soon the mosses attracted his attention as a group needing investigators at that time. Perhaps his first general recognition among botanists came through his taxonomic work on this group, the most important publications being *Analytic key to the genera of mosses* (1886); *Revision of the North American species of Fissidens* (1887); *Artificial keys to the genera and species of North American mosses* (1890), revised in col-

laboration with HEALD in 1897; and a series entitled *Notes on North American mosses* in the BOTANICAL GAZETTE, leading to a revision of *Dicranum* in collaboration with TRUE.

3. PHYSIOLOGY.—The chief contributions of Professor BARNES in plant physiology were as a critical reviewer, a teacher and effective guide in research, and a sponsor for certain points of view. He was an early champion of the restricted use of the term plant food now generally held; advocated many years ago the use of the term photosynthesis (or photosyntax), in place of assimilation, for the first stages of food-making; and consistently advocated the restriction of sex terms to sex organs. The vice-presidential address of 1899, and even more the presidential address of 1904, gave stimulating points of view much in advance of current usage. To few is given the ability to make so clear the actual status when the subject is foggy and uncertain, as is the case in so many regions of physiology.

4. MORPHOLOGY.—After his removal to Chicago, Professor BARNES became greatly interested in the special morphological problems presented by the bryophytes, and for a number of years offered courses in the subject, in cooperation with Dr. LAND. In connection with this work, Drs. BARNES and LAND made extensive field studies and collections in Mexico in 1906 and 1908. There had already appeared two joint papers, one on *The origin of air chambers*, and the other on *The origin of the cupule of Marchantia*. Several other joint papers are in various stages of preparation, and are to be issued by the junior author. It was planned that this series of studies should lead to the preparation of a general work on the special morphology of bryophytes.

The intellectual horizon of Professor BARNES swept in a much larger circle than his professional subject. No man had wider interests, or brought to them a saner mind. There was no assurance or dogmatism on the one hand, or no wabbling uncertainty on the other. The whole mental attitude was judicial, one of perfect poise, friendly to truth from every direction; and the judgment was clean cut, but never final. His loss to his department, his university, and his science is irreparable, for although institutions and subjects outlive their men, a resource that may be replaced in amount, but never in kind, has now become a memory.



C. R. Barnes